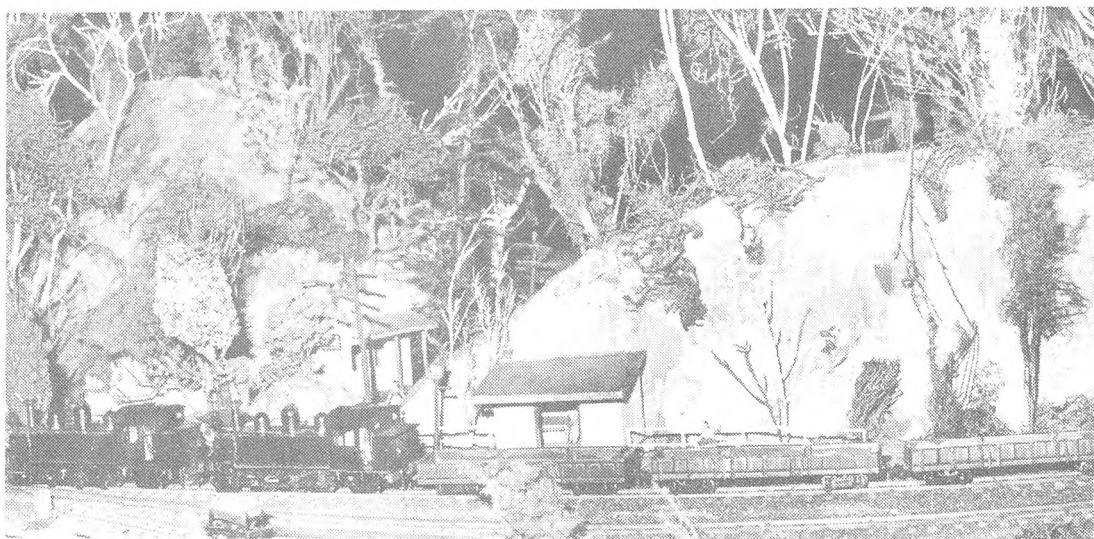

AMRA

AUSTRALIAN MODEL RAILWAY ASSOCIATION



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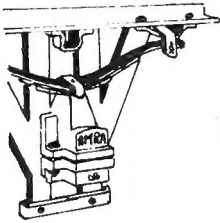
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Editorial

JOURNAL BOX

What's in it for us?

Without debating the merits of tariff reductions, I wonder "What's in it for us?" At a cursory glance it would seem that imported "toy trains" should be cheaper, and hence put another "squeeze" on the Australian manufacturer.

But are they any cheaper? I have not purchased many imports in the last couple of months, but I seem to be still paying the same price for those that I have purchased.

I suppose one could offer the old argument - when prices rise, we pay more immediately; when prices fall, we have to buy the existing stocks at the old price before the price drops.

I wonder??

Then, it has been stated, that co-incident with the tariff reduction, the manufacturers put their prices up.

Then I suppose the poor struggling Australian manufacturer is gnashing his teeth - no longer is he quite as competitive as before, yet can he afford to drop his prices?

I wonder - what's in it for us!!

continued on page 133.

COVER PHOTO

The standard of Ellis Eyre's coffee table layout is typical of the layouts at the NSW Branch Exhibition.

Photo by A. Templeman.

VOLUME 22.

ISSUE 107.

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THE SECRETARY'S DESK



As forecast the amount of nomination forms returned did not elect a full committee, a number were received after the due date, or were unsigned in the proposers column so the same hands will be on the throttle for another year.

We often appeal to members to advise the Federal Registrar (June Dunn) direct over applications or changes of address, often to no avail, but on another matter we would appreciate members co-operation. If any member knows of the death of another member, please advise Juen, this will prevent the embarrassment of sending renewal notices to deceased members, as does happen each year.

Renewals have come in at a better rate than in the past and this will enable a more comprehensive membership list to be prepared for publication in Journal, any name not appearing on this list, will not receive the Nov/Dec issue of Journal. The postage rate for Journal has jumped, so expenditure in that direction will need watching.¢

Mention has been made of the finishing of Jack Treseder's office, as Publisher of Journal, this has been a long period and has taken up uncountable hours, that could have otherwise been spent in modelling and time for that is a precious commodity as you are all aware and the C.O.M. take this opportunity of saying THANKS to not only Jack, but to his wife Dot for all the typing involved in the preparation of Journal prior to passing on to the printers. If you calculate the time spent in the preparation of a copy of Journal and multiply that by 50 odd you

will realise something of the time Jack has given to A.M.R.A. a real labour of love. Thank you Dot and Jack. Long may their successors reign and a good stock of articles to choose from is every publisher's dream, help make it come true.

The NSW Branch now have their 11th Exhibition behind them and the improvement in the presentation of many of the displays was quite noticeable this year. At the time of writing, the Queensland Branch are preparing to participate in the November Hobbies Week Exhibition in Brisbane, the Victorian and Western Aust. Branches are also getting into full gear for their Exhibitions, so all in all AMRA's name will have been displayed to quite a large audience, when they are all over, what better way to publicise the Association. On behalf of the C.O.M., the compliments of the season to you all.

A.M.R.A.

HON. LIFE MEMBERS

Tim Dunlop
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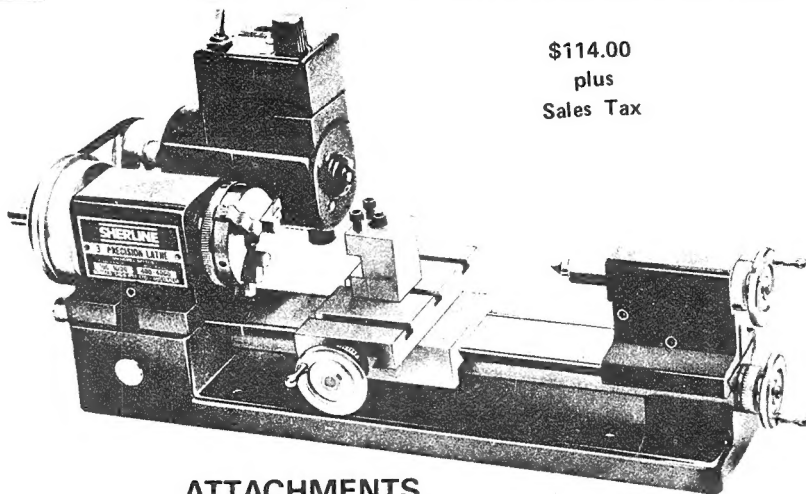
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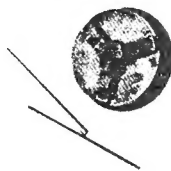
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TIME TABLE OPERATION

Several persons late^{ly}, have asked for information on this aspect of our hobby, so possibly others may also be interested. This side of the modelling of the prototype can actually go much further than the models themselves, as almost everything that is done on the real thing can be also done with the model in timetable operating.

As on the prototype, the owner first has to sit down and determine just what he wishes to do on his layout. Whether he wishes to run solely passenger trains, and if so, the frequency, the length of each train and the destination or destinations. If freight trains, the Industries and Sidings that will be served, the number of "Way Freights" or "Pickup Goods" that will pass each way every session, the actual Industries themselves and the particular items that each Industry will handle, not forgetting the vehicles that these commodities will require to move them. Or lastly, if he wishes to run perhaps a railmotor service mixed in with a fast goods service between two points, and a pickup goods for the other stations on the layout.

Obviously he cannot run full length passenger trains if he only has the space and facilities on the layout for one or two coach trains. It would be better for him to run a railmotor service with its smaller requirements in platform space and servicing facilities. A railmotor doesn't normally need to be turned either.

Then the Industry and Sidings on his layout may or may not be suitable for adequate shunting, and this is almost essential if he wants to emulate a reasonable "Pickup Goods" system. "Adequate" should not be construed as meaning "difficult". A difficult siding on

by KEN ELDER.

a station usually adds to the enjoyment, as the Driver/Guard then has to keep his wits about him to prevent his train from becoming hopelessly snarled up.

Now to revert to our Owner's wishes. Once he has established just what he is going to attempt to portray on the model, then he must see whether his rolling stock and motive power will be sufficient to enable him to carry out this operation. Here again, it will depend upon the number of operators that will be available to run the layout, the number of drivers and or guards that will be required to drive the trains that our Owner has in mind, and accordingly the number of locomotives that these Running Staff will need to complete the operation. When we speak of running the layout, we mean the number of Signalmen, Station Masters etc., call them what you will, that are required to operate the points, power supplies etc. as distinct from driving the actual trains. Of course on the owner's layout these jobs can possibly be combined, but there are a number of layouts where the jobs are divided into signalmen, drivers, guards and because of the size or complexity of the layout the numbers are actually required.

The next step is to set down on paper a list of rolling stock with the number of each particular type of wagon or coach that is available for use. (Quantity - not the actual number of every wagon.) Beside each type we now place a single or double letter. This is to facilitate identification of wagons for guards or signalmen and drivers.

16 box vans....X	12 open flats....F
19 hoppers.....H	5 cattle vans....C
6 presflo cement....P	
8 bogie bolster.....BB etc.	

Now on a separate sheet list the stations and under each station record the Industries at that station and the sidings on which the industries are located. Beside each industry record the goods that the industry will handle, and beside the goods, record the type of wagon that will be required to move the goods being manufactured and the raw materials that are required to make the goods. This will give a sheet something like the following:-

BEACH RIVER.

Mine Siding.

Outwards. Quarry material. Open 4 wheel
or hoppers.

Inwards. Timber props. Open wagons.
Diesel oil. Oil tank car.

Goods Depot.

Outwards. General. Box vans, open
flats with load,
(tractors).

Inwards. General. Box vans, empty
flats.

Electrical Factory.

Outwards. Drums of wire. Empty flats,
open wagons.
Transformers. Weltrel.

Inwards. Timber. Box vans, empty
flats.

Frozen Foods.

Outwards. Frozen foods. Refrigerated
vans.

Inwards. Fresh foods. Refrigerated
(fruit) vans.
Timber. Box vans.

One of these will be made out for each station on the Owner's layout and a copy will be made available to each signalman and driver. This of course will be very useful to the signalman when he wants to know where to locate incoming wagons, and also for wagons

to be despatched when he will want to know which direction the wagons are to be sent. Drivers and guards will find the list useful when sorting wagons on a pickup goods. When they become accustomed to the layout and where industries are located on the sidings, they can then sort the wagons in the best order for shunting at each station. Once again, very prototypical and realistic.

Of course the goods manufactured can be added to or amended to suit the owner as required. The above is just to give you an idea of how to go about it. From these sheets you can make up a traffic pattern flow and this is done by deciding on your layout, where for example, the frozen foods made at Beach River, will be sent to. It may be that you think they will go to just one destination, perhaps a port for export, or to several stations.

Once you have decided exactly where each item of goods on your railway will be sent, then you can commence to make up your traffic pattern flow chart. This is done by listing every station and underneath a list of wagons that will arrive for industries at that station, and another list of wagons that will depart from that station for other destinations.

It is entirely up to the owner to decide how long any wagon is kept at an industry once it has arrived. Some wagons obviously will be returned as empties, others may be retained to load the manufactured goods after a certain period of time.

TRAFFIC PATTERN FLOW CHART.

BEACH RIVER.

In. Open wagons, hoppers, oil tank
(Shell), box vans, Weltrol,
loaded flats, empty flats, re-
frigerated vans.

Out. Open full - quarry material,
 (docks).
 Hoppers full - docks.
 Oil tank empty - return
 (Crestwick)
 Box van empty - return
 (Dundundra).
 Unloaded flats - return
 (Crestwick) unless
 wanted by Elect. Factory.
 Weltrol loaded - Docks.
 Regrigerated vans - Docks.

and similarly for each station on your layout.

ACTUAL LOADS.

On at least two layouts we know, there has been devised a system of making actual loads that require certain types of wagons before they can be despatched. The loads are actually loaded on to the type of wagon required, and on arrival at their destination, unloaded, placed beside the factory or industry concerned, and the empty wagon re-routed back to the point of despatch or otherwise as necessary. This in effect creates more traffic is prototypical and provides the means of whiling away an hour when you have nothing else to do by making the loads themselves. These can be in many forms, e.g. Transformers made from small castings, or purchased ready made by Kibri or Vollmer, Containers to keep up with the modern trend - from suitable sized wood blocks or cardboard. Timber in planks or tree trunks, Piping from window blind material the small diameter reed type - particularly the white kind, as this is ideal for the plastic pipes now used by the PMG and others. This will give the reader an idea of what can be done in this field. The main effect is to create "realism" in our model railway, and that is what helps us to enjoy our hobby even more. Of course the owner has to have some sort of system also whereby a particular type of wagon from either the nearest station or goods yard, and

this too creates another prototypical effect.

From the traffic pattern chart the owner can see exactly how many and what type of wagons he requires to be able to run his railway in the manner he has decided. If for example he wants to run a pick-up goods from each end of his railway simultaneously (providing this can be done on his layout) he will need firstly enough wagons to distribute round the layout before the timetable-operation session commences, then he will need a loco for each of the pick-up goods trains plus a brake van for each. If he can run to it, a shunting loco at each station where extensive shunting and sorting will be done can be used, (with a driver of course). These can sort wagons ready for the pick-up goods train to arrive, and when it has left, can continue sorting and shunting the wagons the pick up has left behind.

Now if passenger traffic is required he will need either railmotors or local passenger trains, or express passenger trains according to the facilities on his layout.

Remember that with steam locomotives, railmotors and diesels, refuelling is required sooner or later, and facilities should be established along the layout at stations where such facilities would normally be located. Remember too that time must be allowed for this refuelling on our club layout, railmotors do an "out and back" trip and then return to the loco shed area for refuelling. Steam locos return to their shed on arrival at a terminal station, unless scheduled to make an immediate return trip in which case the loco will probably have to "Water" en route. All these add interest to the timetable operating and "realism".

MAKING THE TIMETABLE.

With these lists the owner can now commence to make his timetable. We

find it best to use a suitable sized sheet of graph paper to draw our timetable on. We use a 16"x12" sheet with squares marked off in inches and tenths but the size is really immaterial, depending upon just what you wish to enter on the sheet.

To commence, rule a line right along the top of the sheet at the edge of the printed squares. This will be used for "time in actual minutes" or whatever time you prefer to use.

Down the left hand side of the sheet allowing say up to two squares in (two inches on the one we use) we place the names of the stations and sidings.

The distance between one station and the next is up to you, according to the number of stations on your layout. If you have say four stations, allow them equal spacing for the sidings in each station and between stations.

From the right hand side of the longest named station now mark off the time along the top of the sheet. We use two small squares for each minute. For neatness and clarity draw a line from the "0" mark on the top line down to the last station siding on the sheet and continue say four small squares below this. Draw a line along the sheet similar to the one at the top and mark this one off in time as well (exactly the same as the top line). Now we assume that the first train will depart from Beach River at 2 minutes past the hour, and it is a railmotor leaving from the platform road. So a dot is placed on the graph along the line of the platform road and under the line of the 2 minutes mark.

The train will take one minute to get to the next station (Creswick) so we place another dot on the platform road line at Creswick station under the 3 minute mark, and then join the two dots. This indicates the path of

the railmotor between the two stations.

On arrival at Creswick the railmotor waits 2 minutes to off load and on load passengers, this we show by a horizontal line along the platform road line for 2 minutes.

The railmotor then departs at 5 minutes past the hour for the next station (Dundundra) and takes 2 minutes for this journey. So we place a dot on the platform road at Dundundra under the 7 minute mark, and join the dots.

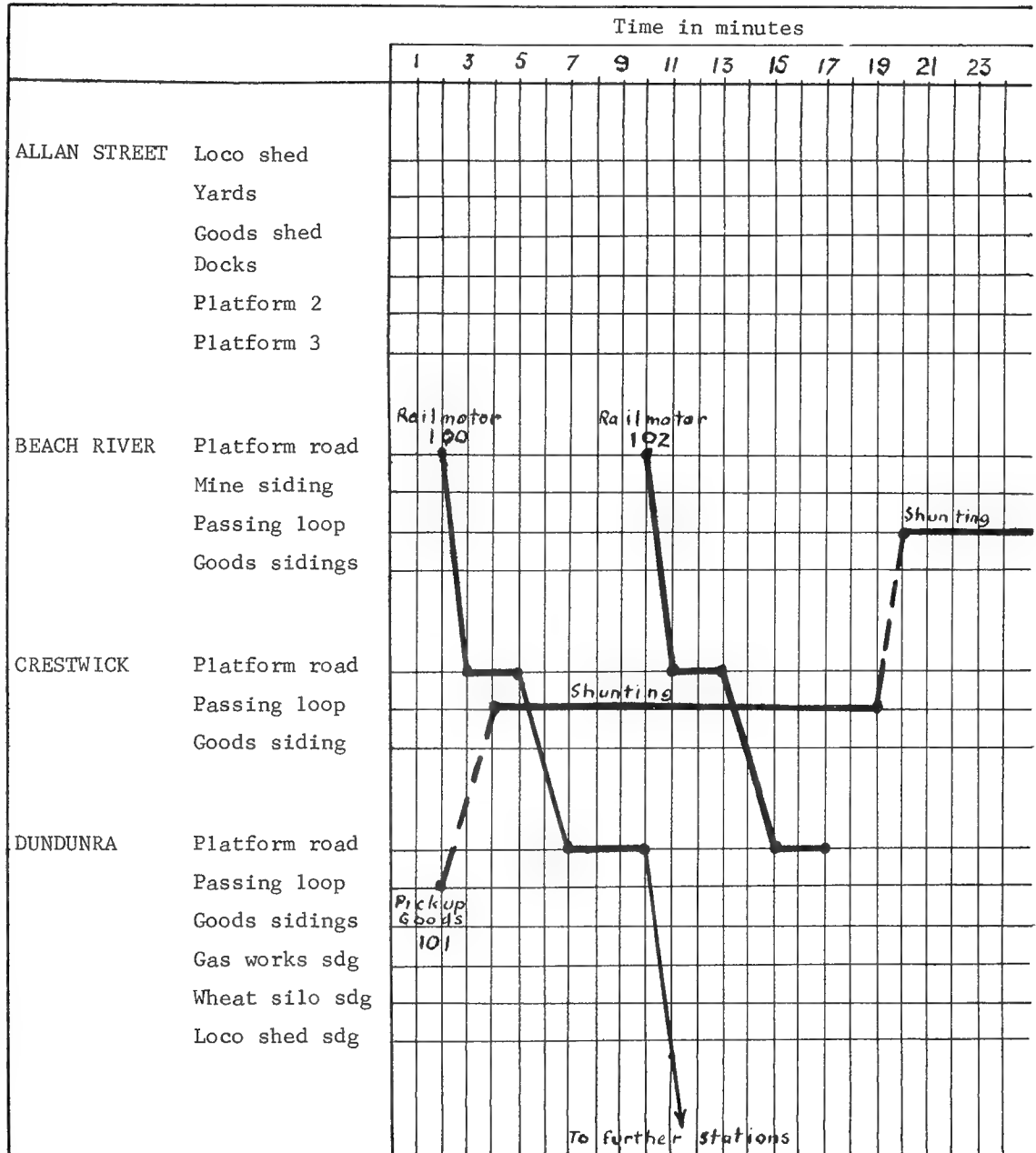
Assuming the railmotor waits for three minutes at Dundundra, a horizontal line is drawn along the Dundundra platform road line and finishes under the 10 minute mark.

Now from an examination of the graph so far we can see that if we wish we can either pass the railmotor (from either direction at Crestwick between 3 and 5 minutes past the hour - assuming that our layout is single line working or at Dundundra between 7 and 10 minutes past the hour. If you now mark a dot on the loop line at Dundundra under the 2 minute mark and another on the goods loop line at Crestwick under the 4 minute mark, you will see that this train arrives at Crestwick while the railmotor is still there so will have to go into the goods loop - if it is another passenger - until the railmotor has departed. Then it can shunt into the passenger platform road. However if it is a goods train it can proceed to shunt without further ado.

For the purpose of our graph we will assume that this second train is a pick up goods, and so we will allocate 15 minutes for shunting at this station. So a horizontal line is drawn along the goods loop line until it stops under the 19 minute mark. We then draw a dot on the goods loop line at the next station (Beach River) under the 20 minute mark and connect this with the end of the shunting time (19 past).

Now we have two trains plotted - a railmotor and a pick-up goods. If we want a further train to be plotted in the same period, it could depart from Beach River between 3 and 17 minutes past, and arrive at Crestwick while the pick-up goods was shunting. It

might be advantageous to plot another local passenger or railmotor at 10 minutes past departure, arriving at Crestwick 11 minutes past, 2 minutes wait and departing for Dundundra at 13 minutes past, arriving at 15 minutes past the hour.



Similar trains are plotted along the graph until the owner comes to the end of the period of time he has decided that the operation will cover. The question of using "actual time" or "hotted up time" is entirely up to the owner himself. It should be pointed out that for shunting operations using actual time is less messy than hotted up time in our estimation.

For easy identification of any particular train on the timetable we number every train except where a light engine is used. All trains on the "Up" line can be given even numbers and all trains on the "Down" line odd numbers. This cannot be done until the graph has been completed. So on our graph, the first railmotor (A) becomes RM100, the second RM102. The pick-up goods becomes G101, and so on.

Light engines are normally called "Light Engines" and the actual number of the loco is used i.e. "Light Engine 421 left 10 past."

Once the graph part has been completed, the owner can now turn to the timetables to be used by the running staff on the layout. Here he must decide whether to use signalmen/drivers signalmen and drivers, or whatever other staff he wishes or can accommodate at the one time.

We will assume that he has decided to use a signalman for each station and a driver/guard for each train. Where another train starts its journey AFTER a previous train has finished its run, of course, the same driver can be used for the second train.

From the graph we now draw up instructions for these running staff. The instructions should be clear and precise. If possible they should be in some permanent form and easily handled or placed in some spot where they can be readily referred to without damage. Usually the timetables for

driver/guards should be made and fixed to some stout cardboard or included in a folder so that the driver can carry it with him for quick reference. Signalmen's instruction sheets can be placed in a prominent position either on the control panel or in some other easily seen spot.

From past experience we have found the following form of instruction preferred by signalmen. Taking our graph again we find the following for our Signalman at Beach River.

OUT 02 Railmotor 100 departs for Crestwick.
OUT 10 Railmotor 102 departs for Crestwick.
IN 20 Pick-up goods 101 arrives from Crestwick - shunts.

For the Signal Box at Crestwick there is a little more.

IN 03 Railmotor 100 arrives from Beach River on platform road 2 minutes wait.
IN 04 Pick-up goods 101 arrives on goods loop from Dundundra shunts until 19 minutes past.
OUT 05 Railmotor 100 departs for Dundundra.
IN 11 Railmotor 102 arrives from Beach River on platform road 2 minutes wait.
OUT 13 Railmotor 102 departs for Dundundra.
OUT 19 Pick-up goods 101 departs for Beach River.

In this way, especially if the owner has decided to run an extensive and heavy service, the signalman knows exactly what is happening.

The Drivers Instruction sheet will look like this:-

DRIVER for Railmotor 100.

01 Signs on at Beach River, checks railmotor is ready for departure.
02 railmotor 100 departs for Crestwick.

- 03 Arrives Crestwick. Pick-up goods will arrive and shunt yard here.
- 05 Railmotor 100 departs for Dundundra.
- 07 Arrives Dundundra. etc. (the drivers instruction for RM102 will be made out also.

DRIVER for pick-up goods 101.

- 01 Sign on at Dundundra. Loco from shed to take pick-up goods from yard. Check couplings and load.
- 02 Depart for Crestwick.
- 04 Arrive Crestwick goods loop. Shunt. Railmotor 100 will cross you here.
- 19 Pick-up goods 101 departs for Beach River.
- 20 Arrives Beach Rivers goods loop. Shunts. etc.

From these you will see that everyone is given exact instructions what to do. In the event of any train being delayed the signalman at that particular station should inform the next signalman of the delay and the reason. A suitable book can be kept for this purpose by the signalman and used for recording of all delays, breakdowns etc. All this adds to the realism of the operation.

Now we have all that we require to run our timetables. We have instruction sheets for our signalmen at each station, for our drivers of every train on the timetable; we have instructions to signalmen and drivers for the disposal of wagons at every siding and industry.

If we go one step further than this we would have a train controller. He would be located in any position with a desk or some place where he can lay out the graph. On top of the graph is placed a piece of perspex, and on to the perspex he draws the plot of every train that runs during the timetable operation. He does this from arrival and departure times given him by the

signalman. From this he can tell whether a train is one time - running late - whether it should be diverted cancelled, placed into another time slot, etc. This is the ultimate in timetable operation, and normally only those clubs or layouts that have plenty of manpower available can have a train controller. For a very large layout he is a necessity to tie up loose ends that occur during the timetable session where one person who can see all of the operation can quickly make a decision so that the operation can continue without a pause. This is prototypical.

From now on all the owner has to do is sort out his available manpower, allocate the different jobs, set the clock, and "let them roll".

If any readers have any difficulty in timetable operation, the writer will be only too pleased to offer a solution on receipt of a letter or telephone call.

Editorial cont.

How are those entries going for the Association's competitions? You have until January 31st to get them to the Federal Secretary.

Finally, let me wish you all the compliments of the season. Have a Happy Christmas, and a safe New Year.

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Bring your loco back to life

by KEN DOWN

Some of you may have found that some locomotives that you have had for a few years do not pull the same load now as they used to when you first put them on your pike. You have probably tried to lubricate them with no improvement.

The reason is that the magnet has become weaker and needs remagnetising. If you have an ammeter on your control board you will see that it is showing 0.8 to 0.9 amps or 800 to 900 milliamps. A small loco, like an O-6-0 should be somewhere between 250 and 400 milliamps.

All you need for a magnetiser is a coil wound on a spool, with an iron core to fit the spool, a fair sized capacitor, say about 2000 M.F.D. if possible, a power supply and a switch.

I used an ex P.M.G. 50 volt power pack which was obtained for \$5.00. These are available via Allan Dowel, although I am not sure of the current price. The coil was a 50 volt relay coil, mounted on a spool with a hole to take a 13/16"x 3/8" core. I made the core by obtaining a burnt out ballast from a fluorescent light fitting stripping the coil from it, and cutting the laminations to form a U shaped core as shown in figure 1. The bottom of the U was split to enable the fitting of the coil. When cutting the laminations, stagger the cuts so that on rebuilding, the laminations overlap. This is both for strength and to provide a more continuous path for the magnetic field.

It is only necessary to cut the U if your coil is already mounted on a spool. If you insulate the core and the cheek on either side with 1/16 fibre sheet you can wind your coil straight on the iron. The coil for 50 volts has 1388 turns of 28 B & S gauge (0.0126")

enamelled wire, which has a resistance of 30 ohms and makes quite a powerful magnet.

The remainder of the laminations are cut and bolted together to make two blocks between which the magnet, to be remagnetized is placed, this completing the magnetic circuit.

The circuit is quite simple and is shown in Fig. 3. The push button should have sturdy contacts. I suggest that you go to your local service station and ask for an old set of contacts, which they quite often have lying around, and alter the spring so that it has to be pushed to close the contacts.

To assemble, drill the core with an 1/8" drill as shown in Fig. 1. Make four legs from 16 gauge strap iron 3/8" wide, bend the small angle at the bottom for anchoring (Fig. 2), and drill to match the holes in the core. Clamp together with 1/8" whit. bolts through the holes.

It will be a great help if you make an aluminium table to fit over the top of the magnet. This makes it easy to adjust the laminated blocks to make contact with the sides of the magnet of your motors no matter which physical size they may be.

From a piece of aluminium sheet about 1/16" thick, cut a piece about 2" x 3½". Cut two oblong holes in the sheet to be a good press fit over the legs of the U, and press it on to the poles between the jaws of your vice. Make sure the tops of the two poles are smooth and parallel, and that the two sliding blocks make good contact with both the poles and the magnet of your motor.

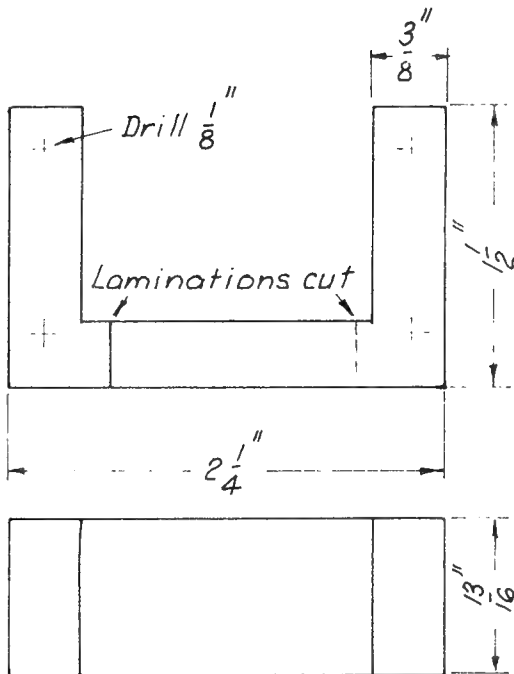


FIG. 1. STEEL CORE

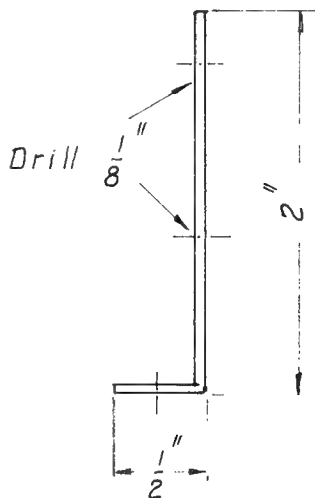


FIG. 2. LEGS

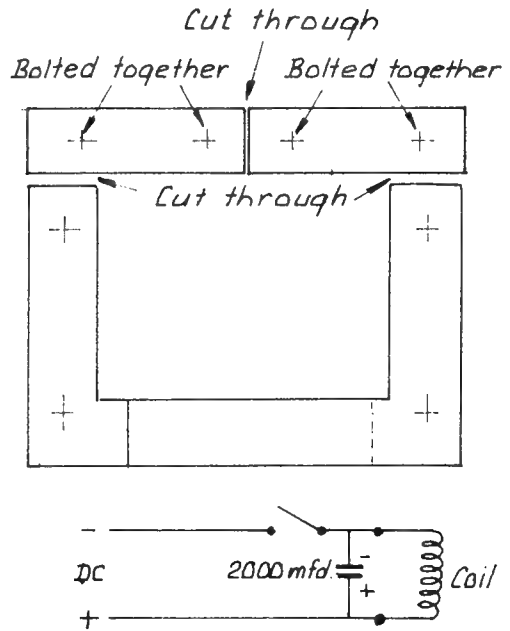
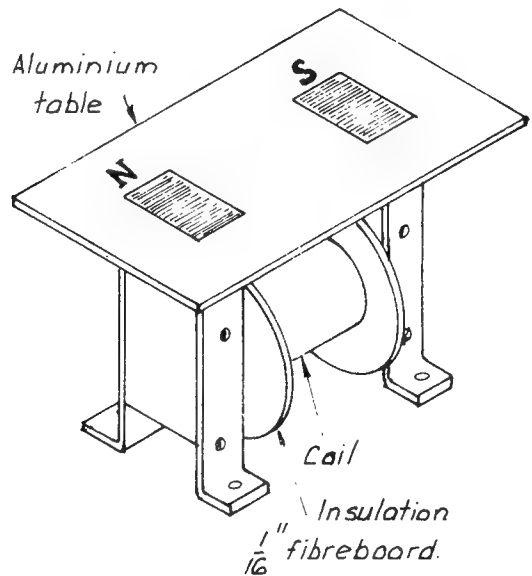


FIG. 3. CIRCUIT DIAGRAM



It is not necessary to dismantle your motors beyond removing any mounting screws which may hold the sliding blocks away from the magnet. If possible always leave the armature in place as it acts as keeper for the magnet, especially if the motor has been stripped.

To remagnetise, first find the polarity of the magnetiser by holding a compass near, but not too close, to one of the poles (power on) and permanently

mark its polarity. Find the polarity of the magnet in the motor in the same manner, and set up the motor with the opposite pole over the marked pole slide on the blocks to complete the magnetic circuit, and press the switch with a quick tap two or three times.

Now your magnet should be remagnetised and a check on your layout should show a marked improvement in your motor. Your ammeter should also show a drop in current consumption.

Building streamlined passenger cars

by BOB DUNN.

Most States in Australia now run passenger trains made up of steel streamlined cars, e.g. Victoria/New South Wales - "Spirit of Progress" and "Southern Aurora"; Victoria/South Australia - "Overland"; Queensland - "Sunlander"; "Westlander", etc. As these cars are similar in design, they can easily be constructed from moulded Perspex, a method I have used to scratch build the "Spirit of Progress".

The Perspex used is 1/16" thick, clear, and can be purchased from various hardware stores of plastic sign manufacturers. It is preferable to order the Perspex cut to the sizes required, as to cut pieces from a large sheet requires considerable care to avoid cracking with resultant waste. A charge is usually made for cutting to sizes, but this is well worth while as Perspex retails at approx. \$1.10 per sq. ft.

When purchased, the Perspex is covered on both sides with a protective paper facing which can be left on during cutting to protect the highly finished surface on the material. Should you be unfortunate to scratch or damage the surface, it can be restored by rubbing with fine glass paper, steelwool, cutting compound and car polish - the

treatment depending on how badly the surface is marked.

The car bodies are formed from 1/16" Perspex sheet cut large enough to form the sides and roof in one piece with about 1/2" allowance all round for final trimming. Perspex when heated to about 300 F. becomes pliable like rubber, but avoid overheating as the material will "bubble" and be of no further use. When heated, the Perspex can be bent to shape and, on cooling, the shape is retained. Reheating will result in the Perspex reverting to its original shape - flat.

The kitchen oven is ideal to heat the Perspex, and it is preferable to lay it on a clean flat piece of tinplate or brass, rather than directly on to the oven tray, as any irregularities on surface of oven tray will be imprinted on surface of Perspex when heated. The Perspex is moulded around a wooden block shaped to the inside contour of the car body, i.e. the required outside shape less 1/16" all round allowance for the thickness of the material. (fig. 1.)

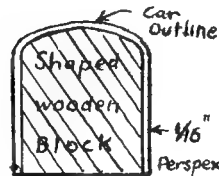


Fig. 1

The wooden block must be carefully made. Hardwood or any similar close-grained timber is suitable for the block. The shape of the block is best obtained by drawing accurately to scale the cross section of the carbody then a line parallel $1/16$ " inside the body line. The wooden block should be a few inches longer than scale length of car, and width should be at least $1/2$ " wider than height of carbody.

When making the block, keep all sides straight, square and parallel, and after shaping to inside contour of roof, finish off with fine glass paper; also square ends of block. Now with a carpenter's marking gauge, scribe a centre line along the block; also down the ends.

To facilitate marking of car bodies for trimming later, scribe a line with a carpenter's gauge around the block equal to bottom car body. Approx. 1" in from one end of block, mark a line around block and a similar line at the other end of the block equal to length of car. As power cars and vans are usually different lengths to passenger cars, several lines may be needed at one end, and they should be clearly defined as to which car length it refers. The wooden block is a very useful

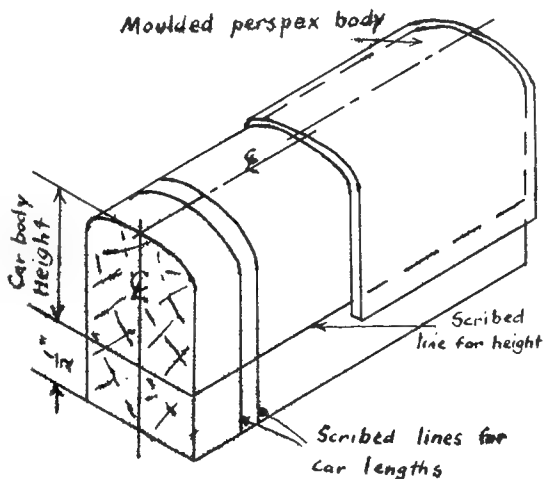


Fig. 2. Wooden Block.

article throughout the construction of the cars and, therefore, it is essential that care be taken with its preparation and use. (See Fig. 2.)

The mould is a little more complicated but Fig. 3 should make it clear. It consists of a baseboard of $1/2$ " plywood or pyneboard to which is glued and screwed two wooden blocks. A sheet of shim metal approx. .006" is fitted between, bent over, and fixed to top of each block. The positioning of the two wooden blocks is most important. First, fix one block to base by glueing and screwing, keeping the working face square with the base. The space between the blocks is equal to two thicknesses of Perspex, two thicknesses of metal shim, and the wooden former block. When fixing the second block, use a few scraps Perspex and shim together with the wooden block and have them a sliding fit to position the second block. The metal shim is now fitted between blocks with the edges bent over and securely screwed or tacked to the top of the two mould blocks. Keep the

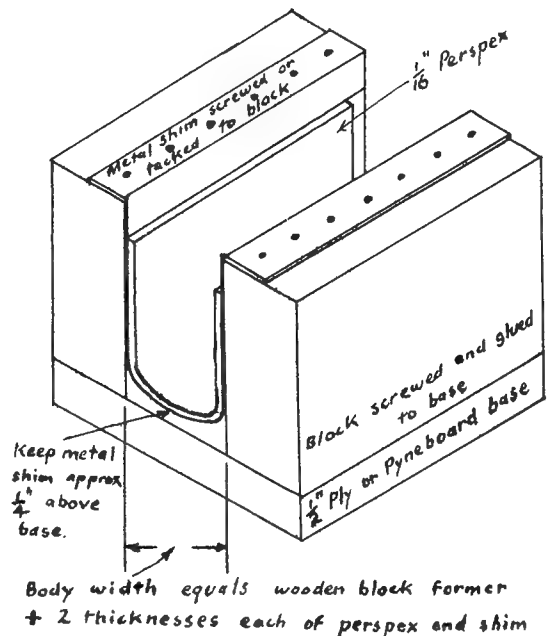


Fig. 3. Mould

bottom of the U shape $\frac{1}{4}$ " above base-board. The length of the mould should be the same as the wooden former.

Now that we have the mould and former completed we can go to work.

After having cut or obtained the Perspex to required size, remove the protective paper from both faces and place on the clean tinplate or brass sheet in the oven to heat. Take the Perspex from oven, bend to U shape in the fingers and drop onto the U shape of the metal sheet in the mould.

The wooden former block is forced inside the U of Perspex and the whole allowed to cool. Best results are obtained by pressing in vice or using "G" cramps, but hand pressure gives a reasonable result. You have to be quick loading the Perspex, partly to avoid its cooling but mainly because it burns your fingers! If you are not satisfied with the pressing, pop it back in the oven and it obligingly flattens out for another try.

Having pressed as many bodies as required, carefully mark for length and height using the scribe lines on the wooden former block. "Eclipse Junior" hacksaw blades are ideal for cutting Perspex and the edges can be cleaned up with a smooth file.

Perspex can be readily cut, drilled and sanded with ordinary tools and sandpaper. Sand only the edges and carefully preserve the natural high finish wherever possible, especially at the windows. Car ends are shaped from $1/16$ " Perspex to fit inside the shell and stick in place with "Bostick Hardbond", obtainable from your local hardware store (a small blue tube of adhesive). A template cut from sheet-metal is useful to mark out car ends.

The floor is also $1/16$ " Perspex cut to fit inside the shell. It is not essential that floor be of Perspex as

any material would suffice, e.g. timber, masonite, balsa.

The method of fastening the floor to body is to stick offcuts of Perspex inside the car body $1/8$ " up from the bottom edge at the ends, also two strips at the bogie centres. The cross strips at the bogie centres are drilled and tapped for small screws to secure the floor to the body as well as the bogies. (See Fig. 4.)

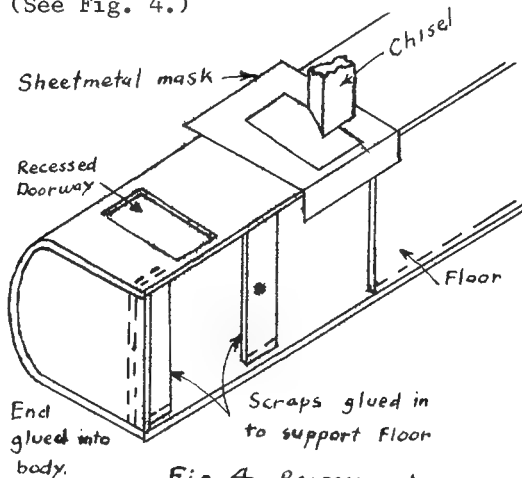


Fig. 4. Recessing doors.

Finishing the car body comes last after the car has been test run. A strip of clear tape is laid out on the car side at window level, and cut at the top and bottom window lines, taking care that the cuts are parallel with bottom edge of the body.

Vertical cuts are made at the window spacing so that when the excess is removed each window is represented by a rectangle of tape. Doorways, if flush with car side, can be scribed but, if recessed from face of car body the doorway will have to be scraped out. Make a mask of tinplate and cut out doorway size. Using a wood chisel or an old file ground to size with a chisel point, hold mask firmly to car body and scrape Perspex away from doorway. (Fig. 4 will explain this more simply than words). Clean up the surface of Perspex as previously mentioned.

The body is now ready for painting and, after drying thoroughly, the rectangles of tape are removed, leaving the clear Perspex for windows.

The gold line and two-tone colour schemes as on "Spirit of Progress", "Overland", "Sunlander", etc. can also be done by masking with tape. I must mention here that, after sticking tape to bodies, cut lightly with a razor blade only - using a knife tends to leave marks in the Perspex.

The underfloor detail varies with the different types of cars but here is a general outline:-

Battery boxes are scraps of thicker Perspex or offcuts glued together, shaped to size and stuck to car floor. The air-conditioning condensers, which usually have a woven wire grill, are made similarly, but pressed against a file in the vice to give a criss-cross pattern on one face. To accentuate this pattern, after painting black, wipe a painty finger across it of white or grey water paint (or white shoe cleaner). After drying for a few minutes, remove excess paint with a damp cloth leaving white paint only in the pattern.

The air reservoirs, generators, air conditioning compressors, etc., are made from plastic knitting needles - your wife's knitting basket is a good source of supply! These can be cut easily and worked with hacksaw and files. If you are fortunate to own or can borrow an electric drill, knitting needles can be turned into desired shapes by the use of files. Casein plastic is used for the manufacture of knitting needles and Hard-bond cement does not take very well but another adhesive "Goodyear Pliofond" (in gold and blue tube) is ideal for this work; also for sticking metal to plastic, wood or other metal.

Various gauged wire and small nails are a handy source for the piping and

other details you may wish to add. Vestibule ends can be either purchased or made as desired.

Streamline type cars are usually 70 ft. or so in length and, as model railway layouts have small radius curves, difficulty is experienced in coupling on curves when couplers are mounted to body. I have mounted the couplers on my cars to 1/16" Perspex strips which, in turn, are stuck to bogie bolsters. In this way, couplings are nearly always over centre line of track and the push and pull loads are transmitted direct to bogie centres. I know this is not scale to prototype, but can you back a 12 car "Spirit of Progress" through 24" radius reverse curves at full speed without derailling?

The cost of building my "Spirit of Progress" cars averaged \$2.30 each, complete with bogies and couplings. Tenshodo streamline bogies were used.

SHOP SPY.

by REX LITTLE.

At long last some kits are available for Australian HOn3½ modellers.

Available are:

TGR "A" truck @ \$1.65)
WAGR "GC" truck @ \$1.65) including
QR "H" truck @ \$2.25) wheels.

Excepting the QR "H" truck, the kits will only be available from Mr. J. R. Gallagher, 52 Eyre Street, Malabar, 2306, due to their expected low demand.

Kits have been forwarded to AMRA members for them to review for Journal.

REQUESTS - QUESTIONS

Have you ever wanted to ask about some aspect of the hobby or had problems and did not know who to turn to - then write to the Editor so that the members can help and benefit through Journal.

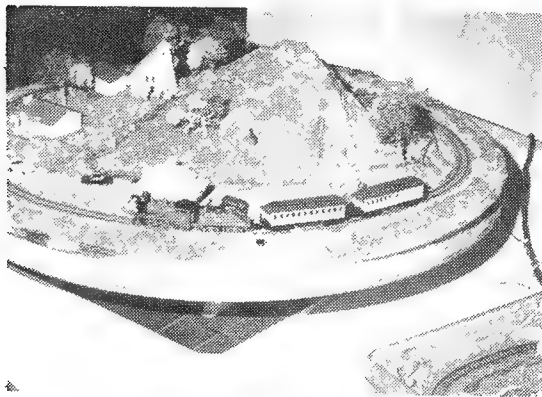
N.S.W. BRANCH EXHIBITION

A Quick Tour

Photos by R. LITTLE & A. TEMPLEMAN.

by R. LITTLE.

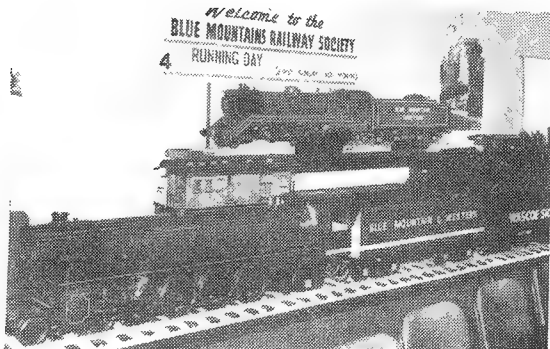
The 1973 Exhibition, held in the Lower Town Hall, Sydney, on 29th & 30th September, and 1st October was highlighted by the large number of excellent operating layouts.



Stand 1. June Larmour displayed her Biscuit Tin Layout, and her latest creation, built on a bicycle wheel.

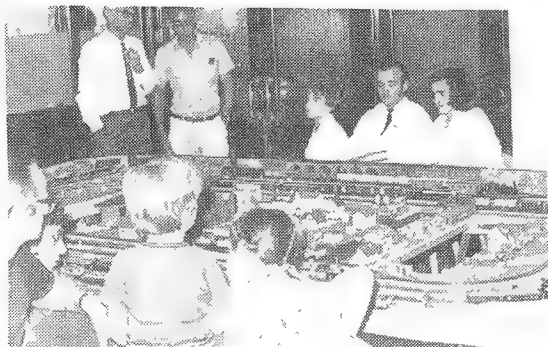


Stand 2. The Sydney N Gauge Model Railway Club displayed a large modular N gauge layout in its early stage of construction.



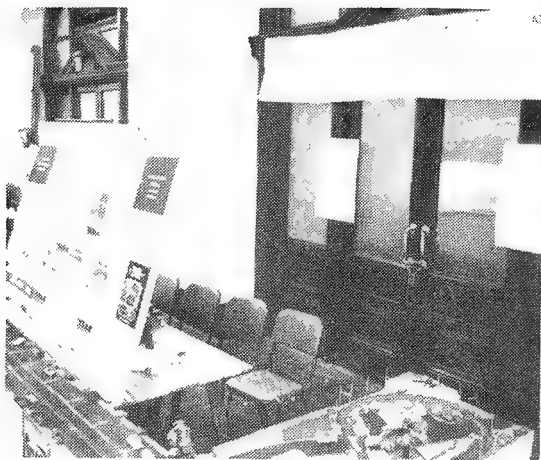
Stand 4. The Blue Mountains Railway Society displayed 5" gauge live steam locomotives and rolling stock.

Stand 5. Traction Publications showed books and magazines of railway and tramway subjects.



Stand 6. Keith Robinson's OO Marklin layout ran as faultlessly as usual.

Stand 7. Searles of Chatswood. Amongst the propriety lines displayed, was a demonstration of the small amount of room needed for the modern gauge 1 equipment.



Stand 8. The Australian Electric Traction Association displayed their sceniced H0 tramway layout.

Stand 8a. S.C.R. Publications, the publishers of the Australasian Model Railroad Magazine displayed back copies of their publication.



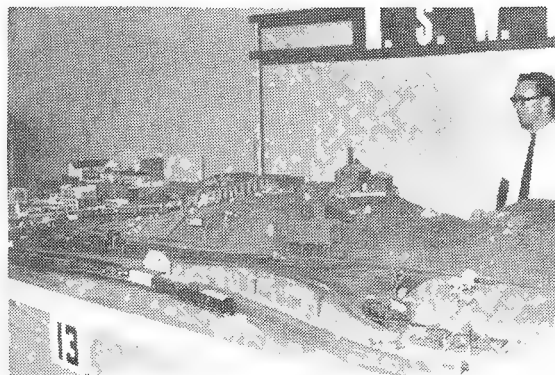
Stand 9. The NSW Schools Railway Club Association, featured their 10' x 8' 00 layout. This layout was built by the schoolboys, using proprietry snap track and rolling stock. Also featured was their magazine "The Railway News".

Stand 10. The "Nibble Bar" did it's usual brisk trade, under the supervision of June Dunn and her band of helpers.



Stand 11. Fybren Models, of Melbourne displayed a wide range of 00 and N gauge equipment, and also wide variety of posters and cards.

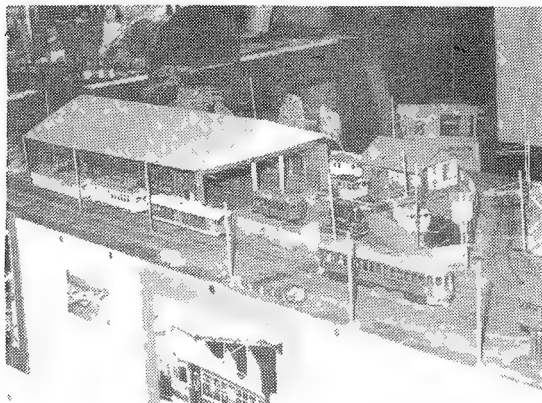
Stand 12. Harry Gibson showed his fully sceniced H0 layout, featuring operating overhead catenary system.



Stand 13. The NSW Prototype Model Railway Clubs' H0 layout of a prototypical NSW railway scene, featured a working coaling tower, and engines with built-in sound.

Stand 14. Des Brien's Hobbies displayed an operating H0 layout together with many proprietry lines.

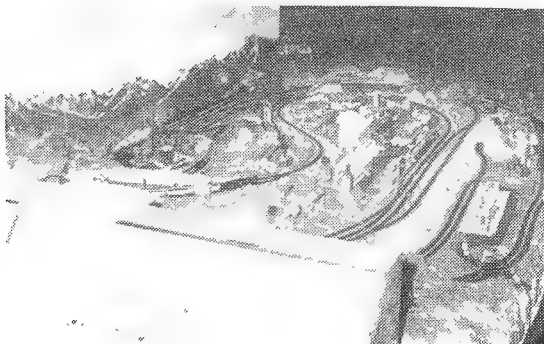
Stand 15. The NSW Rail Transport Museum displayed photographs, small railway equipment, and publications of railway interest.



Stand 16. Barry Cox displayed his 3'4" scale tramway, featuring Sydney, Melbourne, Brisbane and Adelaide trams.



Stand 17. Rod H. Caldwell displayed his HO gauge model railway layout.



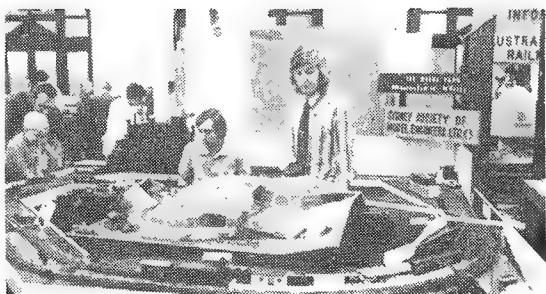
Stand 18. Australian Modelcraft were hard to find, as their space was filled with the Newcastle Model Railway Club's N gauge layout. However, Joyce was there, seated near the column.



Stand 19. AMRA's Information Stand and Scenery demonstration by John Dunn.



Stand 20. The Model Workshops operated a HO scale layout, featuring Stanwell Park station and viaduct. Also of much interest were their display cabinets showing various kits, scratch built equipment, and some items from the NSW Branch modelling clinic.

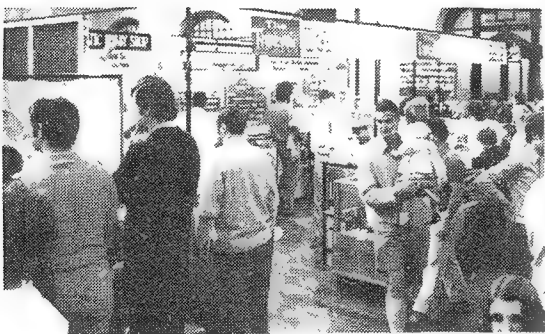


Stand 21. The Sydney Society of Model Engineers displayed a small HO layout and various club models.



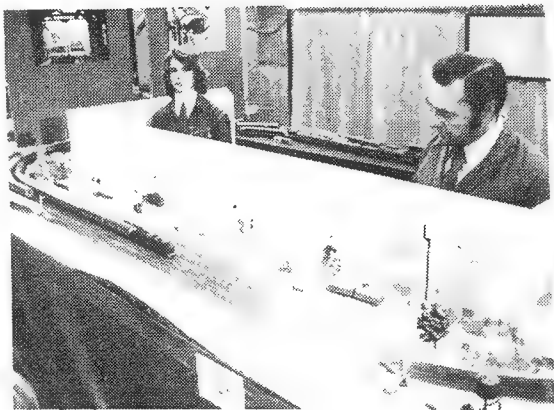
Stand 22. The Australian Railway Historical Society, displayed models and publications of historical interest.

Stand 25. Hergs Hobbies had a static display of various models and accessories, and featured their current range of HO scale brass NSW locomotives.



Stand 23. The Fantastic Hobbyshop displayed HO and N gauge layouts, and a wide variety of model railway supplies.

Stand 24. The Union Central Model Railway Club displayed an excellent N gauge railroad, with steep grades and a variety of static models.



Stand 26. Illawarra Model Railway Club and Hurstville Model Railway Club

combined to exhibit a HO_n3 coffee table layout, featuring "Puffing Billy" some where in the Dandenongs, a HO layout depicting a typical NSW country scene, and a showcase of static models of NSW, VR, SAR, and TGR trains.

Stand 27. Prototype Model Products displayed their range of Australian prototype model railway kits and equipment.

Stand 28. The South Pacific Electric Railway Co-op Society displayed a HO scale tramway and other static exhibits.

Stand 29. The ever popular "O" gauge layout of Norm Read and Colin Shepherd featured many well known NSW trains.

As usual there was always a good crowd around this layout.



Stand 28



FOR READER'S LETTERS

The Editor,
AMRA Journal.

Dear Sir,

It is now some time since the article on Castledare Miniature Railway was prepared, and as Castledare does not stand still, there are quite a few changes by now.

At present there are twelve steam locos actively in use on Castledare, and three diesel outline equipped with single cylinder and four cylinder petrol engines. Jack Stanbridge's (shown in Journal) has the four cylinder Fiat engine. There is also a small diesel shunter outline, electric (battery) operated. Pollution Free!

New coach sidings and shed are being built, and will be followed by a new roundhouse to house sixteen locos. Later a new turntable, three feet longer than the present one, will be built.

So far Castledare has been limited to 7 1/4" gauge, but the go-ahead has now been given for a 3 1/2" layout also.

On Open Day last February, \$180 was collected in fares, and trains of 100 (that's correct - one hundred) passengers were hauled.

One Friday night recently, a few of the "boys" decided to do a little night running carrying passengers. The last train ran at 6 a.m. the next morning.

Castledare attracts a lot of publicity through the state papers, radio and TV. The "heavy" day last February was the result of a TV "plug". The Friday night episode was also the result of a TV "plug".

At the moment, there are at least six more locos under construction by the Castledare members.

BROUGHTON BOYDELL.

MEMBERS

As Publisher may I take this opportunity to thank you all for your support in making this task more a pleasure than a chore. The support has been given in many ways - the number of articles sent to the editor with the range of topics covered, the constructive criticism, the praise for those issues that have appealed to you, the help in proof reading and the comments on the spelling mistakes, which all goes to show that the Journal is read making the effort that goes into your Journal well worthwhile.

and lastly to my family who have forgone my company on many occasions.

Peter Kingsbury has taken on the task of Publisher, and I know that you will give him the same support as you have given me.

A.M.R.A.

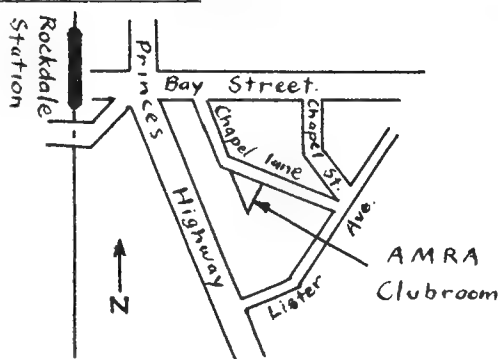
MERITORIOUS AWARDS

Ivo Bunker
 Bob Gorrell
 Alan Dowel
 Stephen Suggit
 Rex Little
 Norm Read
 Jack Treseder
 Mal Baker
 John Sneddon
 John Dunn
 Graham Larmour

I would like to especially thank the editor for his forbearance of missing (temporarily) articles, Bill Morehouse for his drawings - usually at short notice, Korumburra Times for their assistance and co-operation over the years, the Journal typists for their prompt execution of the final typing

Branch Reports

NEW SOUTH WALES.



Sat. 8th September saw a combined meeting of this branch and S.C.M.R.A. (Eastern Division). Approximately 70 members of both Associations were in attendance.

North Shore Railway Modellers Association, as well as our old friend Joyce Gardner from Australian Model Craft, Albury. An enjoyable afternoon of layout operation and general chit-chat was had by all.

The rest of the September meetings were devoted to the preparation of the equipment necessary for the Annual Exhibition, with general dusting, polishing, and re-painting being undertaken by the members.

Important Coming Events:

Fri. 23rd Nov. Slide night.
 Sat. 1st Dec. N.S.W.R.T.M. visit.
 Mon. 3rd Dec. Annual Dinner.
 Sat. 15th Dec. Annual Picnic.
 (subject to last minute change,
 Watch Notice Board).

We also had the pleasure of entertaining a number of members from the

As this will be the last "Journal" before Christmas, your Committee of Management has requested me to convey their warmest wishes for the festive season.

G. BALL.

Wed. Jan. 16th. Visit to a layout.
Venue to be advised.
Mon. Feb. 4th. Clinic evening. Wagon building with Tony Gray.
Wed. Feb. 20th. As above.

WESTERN AUSTRALIA.

Members who have not attended the last couple of meetings have missed a great film evening, and an interesting Auction. Come along to all our future meetings. If you can come along to our future meetings, you will be able to learn more about the hobby as well as meeting other hobbyists.

A great deal of time and effort has been put into the search for a permanent headquarters for your branch.

Many different venues have been investigated by the Committee and other interested persons. Your President, Tony Gray, hopes to make an announcement on the matter in the near future.

The branch has purchased a 12' x 4' HO layout from the Kalamunda Historical Society for exhibition purposes. After adding a few refinements, it is hoped to exhibit this layout at Fetes, carnivals, shows etc., not only to raise finance for the branch, but to attract new members and further the hobby generally. This layout has been acquired purely as a temporary measure, to be displayed and operated until our own Exhibition Layout has been completed.

Meanwhile, the Exhibition Layout progresses but slowly. Track laying will begin in the very near future.

Our schedule of future meetings is as follows:

Mon. Dec. 3rd. Talk on electrics by David Williams.
Sun. Dec. 9th. Family outing and barbecue.

All meetings will be held at Ross Memorial Church Hall, cnr. Hay & Colin Streets, West Perth, at 7.30 p.m., unless otherwise advised.

PAUL HODSON

QUEENSLAND.

August 27th saw a large gathering of members and friends at Clayfield. Our host for the evening was Eric Lyon, and he gave a most interesting talk on Silastic Moulding. His talk ranged from the selection of the types of Silastic Rubber and the making of the masters, through to a practical demonstration of making the castings. Few of us have participated in this aspect of modelling. It has tremendous possibilities.

Our Auction on September 1st, drew a large attendance of the Model Railway fraternity. Our popular auctioneer Eric, was ill but Rodger Kershaw most capably did the honours, with a large amount of equipment changing hands.

A change in our previous methods of conducting an auction, resulted in a lot less work for all concerned.

During interval, the ladies sold soft drinks which were most welcome.

Five members were guests of Peter Kennedy of Oxley, for the September meeting. Peter demonstrated the timetable operation of his OO layout. A fascinating operation, particularly with two trains running simultaneously. Attention was divided between the trains, the timetable, and the clock. No time for loafing! Thank you Peter, for a most entertaining visit.

HEARD THE NEWS ?

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Simply send your order to:—

Box 37, Ormond. 3204.

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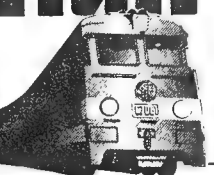
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lay-by now — Christmas is around the corner. Wide range of Hobby Books for all Ages.
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MIXED BAG from AMC**160S "SENTINEL" SCENIC LINES**

AA-1	Aug.shorn Merinos pk.6	.50
A-401	Aust.4-hole Concrete Fence Posts,pk of 36	.35
A-402	Imit.Wire for same - pk	.25
A-403	Corr.Iron 5½ x 5½"	.25

160P "PARADISE" HO/OO SCENICS

3040	Two Tunnel Portals with wing walls, all one piece, so walls can be bent back or forward & unit will stand up. Flat top	1.80
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349 "VOLLMER" N CATENARY

8000	Masts with short arm	.65
8001	Masts with long arms	.65
8003	Masts with feeder wires	1.00
8004	Imit.Wire Tensioner & Lamp	.35
8005	Tower Masts	1.00
8008	Cat.Wire 192-5mm rad.	.35
8009	" " 222-228, "	.35
8010	" " 400mm rad.	.40
8011	" " 430mm rad.	.40
8013	" " 200mm str.	.45
8015	Make-up sections	.30
8017	Insulated Sections	.65
8021	Cross Hangers	1.10
8030	Cat.Wire for Diesel Shed	.40
8032	Cat.Wire for Bridges	.40

360B "BILTEEZ!" N KITS

B1N	Country Station Buildings for 2 platforms	.50
B2N	Factory with tall chimney	.50
E1N	Modern 2 storey house	.50
G1N	Low relief Row of Shops	.50

361 "PECO" N SCENIC LINES

NB-1	5 Lineside Huts	2.25
NB-5	Single Track Engine Shed	2.95
NB-6	Goods Shed	2.25
NB-9	Small Cedarwood Bungalow	1.75
NB-10	Larger Bungalow w/garage	2.25
NB-11	Split Level House	2.25
NB-31	2 Single Tunnel Mouths	1.25
NB-32	2 Double Tunnel Mouths	1.50
NB-33	2 Road overbridge sides of single track with retaining walls	1.35
NB-34	2 similar sides but spanning double track Wagon Loads,in pks for 4 10ft wheelbase vehicles. All packets one price	1.65
NR-200	Sand-natural buff	
NR-200R	Sand - red/brown	
NR-200W	Sand - white/grey - china clay/lime etc.	.65

NR-201	Coal or coke Natural black	
NR-201G	Granite - grey - ballast	
NR-201R	Granite - red - ironstone	
NR-202	Bricks - red	
NR-202T	Bricks, Terra cotta	
NR-202B	Bricks, blue	
NR-203	Timber	
NR-204	Barrels,dark brown	
NR-205	Crates	

363. "ATLAS" N SCENERY LINES

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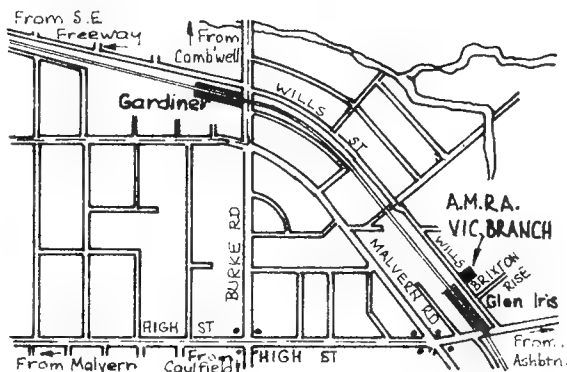
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Our next activity was the Model Railway Week Exhibition at the City Hall from November 12th to 17th. This was a big show this year, with both the Concert Hall and the basement being filled with exhibitors.

Seasons Greetings to all, see you in the New Year.

JIM CHRISTIE.

VICTORIA



A number of our members journeyed to Sydney for the Exhibition over Labour Day Weekend, and were amazed at the number of working layouts, particularly from the private clubs, which were on view. We do hope that the Exhibition was as successful financially as it appeared to be from the viewers position.

The railtrip to Maldon, held on the 13th October, was very successful. The perfect weather conditions helped our amateur photographers produce interesting shots of the many viaducts and bridges, over and under which our "Walker" rail car passed. Whilst the D.E.R.M. consist provided by Victorian Railways in recent years could not be run this year, the "Walker" and trailer gave a different slant on travelling. It also necessitated shunting at Castlemaine, and the front seat passengers were granted a view similar to that obtained by the driver. (On the way

back, where we had been was viewed in the same manner).

Working Bees on the permanent layout have resulted in the erection of the basic framework being completed. With the installation of baseboards in the station areas, it is hoped that track laying will be commenced before Xmas. It is anticipated that when the time comes to commence operations we will have more drivers than operating positions. Preference will be given to those members who have rendered assistance in the various ways requested by the Committee of Management and sub-committees.

The agenda for the next three months is as follows:

- Dec. 1st. Crazy whist at clubrooms.
- Dec. 13th. Monthly Meeting - Xmas breakup. Layout operation. Competition - Collection of year's models.
- Dec. 15th. Children's Xmas Party.
- Jan. 11th. Running night on club layout. (No meeting).
- Feb. 14th. Monthly Meeting - Railfan Safari to Indonesia and Japan. Movie films in colour by John Gardiner. Competition - Diorama, HO or No.

Remember our Model Railway Exhibition. Camberwell Civic Centre, 8th, 9th, 10th, and 11th March, 1974. Ron Mannell is looking for volunteers, so give him your name and the times you will be available.

Members who live between Surrey Hills and the Dandenongs are invited to attend meetings of the Eastern Region sub-branch, held on the 4th Friday of each month at 8 pm. Send stamped, addressed envelopes for meeting details to Peter Carter, 6 Timewell Crescent, Boronia. 3155 or ring Allan Couchman, 26 Hunter Street, Ferntree Gully. 3156 phone 758 1792.

Recently in Post Magazine, the following thought provoking comment was made:

"It has been said that membership of any organisation is made up of four bones:-

1. There are "Wish" bones, who spend all their time wishing someone else would do the work.
2. There are "Jaw" bones, who do all the talking, but very little else,
3. There are the "Knuckle" bones who knock everything that anybody else tries to do.
4. There are "Back" bones who get under the load and do the work."

The Committee of Management, property committee, social organiser and exhibition organiser wish there were many "Back" bones which would make their jobs easier. If you have not supported them in the past, how about giving it a go.

JOHN J. HARRY.

TENDER

Tenders are invited for the supply to A.M.R.A. Victorian Branch of model railway equipment for club use on the various layouts owned by the branch and also the monthly prizes for the twelve months commencing 1st January, 1974.

Tenders are to be based on suggested retail prices.

Tenders must be addressed to the Hon. Secretary, A.M.R.A. Vic. Branch, 68 Lahona Avenue, Bentleigh, 3165, and may either be posted to that address, in which case, they must be post-mark dated no later than 10th December, or alternatively tenders may be hand delivered to the Hon. Secretary, at the Vic. Branch meeting on 13th December, 1973.

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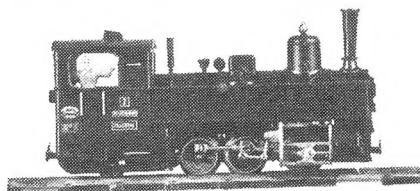
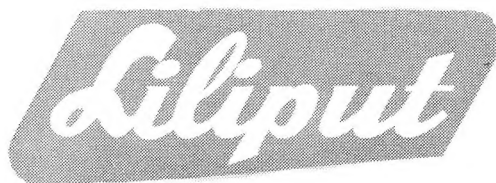
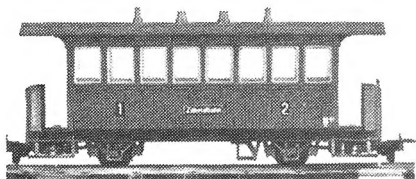
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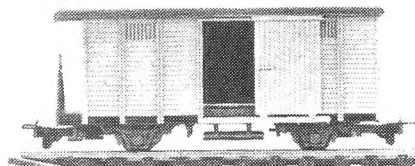
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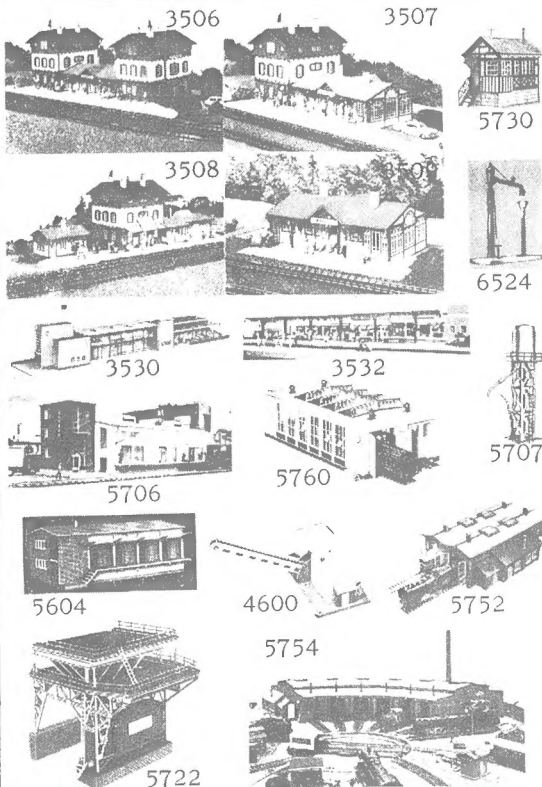


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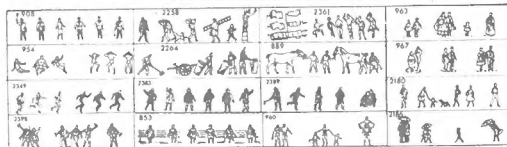
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FIGURES & ANIMALS

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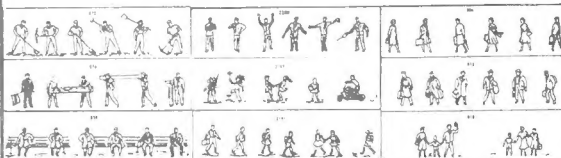
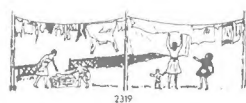


HO/00

806	6 ladies walking with bags	2264	3 garbage collectors, street
810	3 men & 3 ladies walking w/bags		cleaner: w/barrows & bins
812	6 men walking with bags	2268	3 loco drivers & 3 firemen
818	2 groups of 3 tourists	2274	6 locomotive crew
820	Three groups of 2 tourists	2280	Shunter, Guards, Greaser etc (6)
853	6 ladies individually seated	2286	2 men, 2 women, 2 children, climbing stairs
855	3 men & 3 ladies sitting		
859	6 men individually seated	2292	6 climbing stairs, man carrying child, elderly couple
862	6 women with w/length shovels etc		
876	6 track crew with sleepers (2)	2295	3 women, 3 men descending stairs
882	6 track crew, 4 carrying sleepers	2301	2 groups of 3 descending stairs
886	6 track crew w/length of rail	2319	Washing Day (5)
899	Blacksmith shoeing horse, helper	2325	6 service station workers
908	Platform staff, 5 men & 1 woman	2337	2 bricklayers, mortar carrier, man w/shovel, foreman, man w/pick
914	Station staff & policeman w/dog		
948	Standing & Kneeling beach party	2343	Construction site workers, 6 men
960	Beach party, men, women & children	2349	6 men & 6 ladies running
963	Bride & groom, preacher, bridesmaid	2361	3 women & 3 men sunbathers with mattresses & beach chairs
967	Wedding guests, bridesmaids	2369	70 casks & barrels, 7 types
971	6 women running, child, loose hats	2370	90 cases & crates, 6 types
976	6 men running, 3 w/bags, loose hats	2383	6 USA firemen gazing. Long coats
2180	2 men, 3 ladies, boy & dog	2389	6 USA firemen in action poses
2186	Pedestrians w/umbrellas (5)	2398	6 drunks, different poses
2191	7 children walking to school	2399	Group of 'stout' people (6)
2197	7 children walking to school	2400	3 groups of 2 stout people
2234	6 transport workers w/crates		
2240	6 transport workers w/loads		
2258	6 tradesmen, butcher, baker etc.,		

N GAUGE

N 806	6 ladies w/ mng, carrying bags	N 2234	6 transport workers w/crates etc
N 810	3 ladies & 3 men walking, w/bags	N 2240	6 different transport workers
N 812	6 men walking w/bags, 1 w/haversack	N 2268	Local drivers & firemen posed
N 818	2 groups walking, {6}	N 2280	Train crew, 6 poses, shunters, greasers, guards etc.,
N 820	People walking, 3 groups of 2	N 2319	Washing day, 2 ladies, 2 children & 1 baby
N 823	3 ladies & 3 men seated	N 2325	6 service station attendants
N 859	6 men individually seated	N 2343	6 manual workers, carpenter etc
N 870	7 road or rail workers w/picks	N 2398	6 men 'celebrating'
N 876	6 'gangers', 4 w/sleepers	N 2403	36 sheep w/shepherd & dog
N 908	6 station personnel, 5 men, 1 woman	N 2406	16 pigs, 15 goats, boy & girl
N 963	Wedding group, bride, groom etc	N 2407	10 cows & 1 calf
N 967	Wedding guests, 3 couples	N 2408	8 saddle horses & 2 foals
N 2180	5 people walking, men, women, children	N 2409	draft horses, 8 horses, 2 foals



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